DRILL HOLE LOG

BORING NO. 09-P7-B1

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:255,738 E:589,765

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: ▽ 18.0' **AFTER 24 HOURS:** ▼ 16.8'

PROJECT NUMBER: 200801.200

DATE STARTED: 3/27/09

DATE COMPLETED: 3/31/09

GROUND ELEVATION: 4527.9'

LOGGED BY: C.S., K.B., J.B.

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				4	3,7,7,(29)	SM	dk. brown, slightly moist, med. dense	SILTY SAND W/GRAVEL								
4525																
	5			7	16,26,15,(86)	GP-GM (*A-1-a(0)*)	brown, moist, very dense	GRAVEL W/SILT & SAND possible cobbles		8.4		NP	50	44	6	
4520																
	10			11	16,20,22,(67)	GP-GM	brown, moist, dense									
4515																
	15			9	5,4,26,(42)	GM (*A-1-b(0)*)	brown to dk. brown, very moist, med. dense	SILTY GRAVEL W/SAND possible cobbles		11.7		NP	49	35	16	
4510 ▽																
	20			8	28,32,28,(73)	GP-GM	brown, wet, dense	GRAVEL W/SILT & SAND possible cobbles								
4505				6	12,15,16,(39)	GP-GM	gray, wet, med. dense									
	25			14	5,4,6,(12)	ML (*A-4(0)*)	brown, wet, med. dense			28.9		NP	0	45	55	10% -0.005 mm
4500				16	6,8,7,(18)	ML (*A-4(0)*)	brown, wet, med. dense	SANDY SILT clay lenses, silt layers to 2" thick		27.6		NP	0	38	62	DS
	30			18	4,5,9,(16)	ML (*A-4(0)*)	gray-brown, wet, med. dense			27.5		NP	0	44	56	
4495				16	3,5,4,(10)	ML (*A-4(0)*)	gray-brown, wet, loose	SILT W/SAND silt layers to 1" thick		29.0		NP	0	27	73	13% -0.005 mm
	35			16	3,4,8,(13)	ML	gray-brown, wet, med. dense									
4490				15	4,6,7,(14)	ML (*A-4(0)*)	gray-brown, wet, med. dense	SANDY SILT		28.6		NP	0	34	66	10% -0.005 mm
	40			17	3,3,4,(7) *0.15*	ML (*A-4(3)*)	gray-brown, wet, soft	SILT W/SAND plastic		30.1	32	5	0	29	71	13% -0.005 mm
4485				18	1,2,2,(4) *0.22*	ML	gray-brown, wet, soft									
	45			18	0/18",(0) *0.24*	CL (*A-6(18)*)	gray, very moist, soft gas pressure/bubbles - possible methane gas	LEAN CLAY silt lenses		39.9	38	17	0	3	97	
4480																

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE: 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE: PUSHED; 0.45 — Torvane (tsf)

OTHER TESTS

UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B1

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,738 E:589,765
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 18.0' **AFTER 24 HOURS:** ▼ 16.8'

PROJECT NUMBER: 200801.200
DATE STARTED: 3/27/09
DATE COMPLETED: 3/31/09
GROUND ELEVATION: 4527.9'
LOGGED BY: C.S., K.B., J.B.

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
			■	18	3,5,7,(12) *0.45*	CL (*A-4(8)*)	gray-brown, moist, firm	INTERBEDDED LEAN CLAY & SILT LENSES & LAYERS		28.8	30	10	1	14	85	22% -0.005 mm
4475																
	55		⊠	18	Pushed *0.53*	CL (*A-4(9)*)	gray, moist, stiff	LEAN CLAY silt lenses	95.5	26.6	31	10	0	7	93	CT UU
4470																
	60		■	18	3,5,4,(8) *0.40*	SP-SM CL	gray, wet	SAND W/SILT								
							brown, moist, firm									
4465																
	65		⊠	18	Pushed *0.63*	CL (*A-4(10)*)	brown, moist, stiff	LEAN CLAY silt lenses	94.4	32.6	30	10	0	1	99	UC
4460																
	70		■	18	*0.44* 0,5,15,(17)	CL SM	gray, moist, firm									
							gray, wet, med. dense									
4455																
	75		■	18	10,25,23,(40)	SM	gray, wet, dense	SILTY SAND								
4450							gas pressure/bubbles - possible methane gas									
	80		⊠	17	Pushed *0.38*	SM CL (*A-7-6(22)*)	dk. gray, wet									
							dk. gray, moist, firm	LEAN CLAY silt lenses	88.2	32.7	41	20	0	1	99	CT UU
4445																
	85		■	18	2,6,6,(10) *0.31*	SM CL	dk. gray, wet	SILTY SAND clay lenses								
							gray, moist, firm									
4440																
	90		⊠	18	Pushed *0.70*	CL (*A-6(18)*)	gray, moist, stiff	LEAN CLAY silt lenses	95.2	30.2	37	17	0	1	99	UC
4435																
	95		■	18	5,10,28,(29) *0.39*	CL,SM SM	gray, moist/wet, firm/ med. dense	INTERBEDDED LEAN CLAY & SILTY SAND LAYERS TO 2" THICK								
							gray, wet, med. dense	SILTY SAND								
4430								LEAN CLAY silt and/or sand lenses								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) ← Blow Count per 6"; $(N_1)_{60}$ Value
0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE ⊠ PUSHED *0.45* ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B1

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:255,738 E:589,765

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: ▽ 18.0' **AFTER 24 HOURS:** ▼ 16.8'

PROJECT NUMBER: 200801.200

DATE STARTED: 3/27/09

DATE COMPLETED: 3/31/09

GROUND ELEVATION: 4527.9'

LOGGED BY: C.S., K.B., J.B.

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				11	Pushed 0.80	CL (A-7-6(23))	dk. gray, moist, stiff	88.1	32.4	42	23	0	4	96	CT UU
4425															
	105			18	0,7,8,(11) 0.53	CL	dk. gray w/black, moist, stiff								
4420															
	110			18	4,5,6,(8) 0.63	CL	gray, moist, stiff								
4415							LEAN CLAY silt and/or sand lenses								
	115			16	Pushed 0.80	CL (A-6(11))	gray, moist, stiff	106.0	23.7	31	14	0	14	86	UC
4410															
	120			18	Pushed 0.67	CL (A-6(10))	gray, moist, stiff	98.9	22.8	29	12	0	6	94	CT UU
4405															
	125				0.60	CL	gray, moist, stiff								
				18	5,20,27,(32)	ML	gray, wet, dense SILT W/SAND								
						SM	gray, wet								
4400															
							SILTY SAND								
	130			0	9,14,20,(23)	-	no recovery								
4395															
							LEAN CLAY silt lenses								
	135			18	0,3,6,(6) 0.52	CL (A-6(18))	gray, moist, stiff		29.5	39	17	0	1	99	
						ML	dk. gray, wet								
4390															
	140														
4385							SILT W/SAND clay lenses								
	145			18	4,9,11,(13)	ML	gray, wet, med. dense								
4380															
							LEAN CLAY W/SAND								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED 0.45 — Torvane (tsf)

OTHER TESTS

UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B1

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:255,738 E:589,765

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: ▽ 18.0' **AFTER 24 HOURS:** ▼ 16.8'

PROJECT NUMBER: 200801.200

DATE STARTED: 3/27/09

DATE COMPLETED: 3/31/09

GROUND ELEVATION: 4527.9'

LOGGED BY: C.S., K.B., J.B.

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
4375								LEAN CLAY W/SAND								
	155		■	17	9,5,12,(10) *0.90*	CL (*A-6(8)*)	dk. gray, moist, stiff			27.0	33	13	0	28	72	
4370																
	160		■	13	33,50,50/5", (REF)	GM (*A-1-a(0)*)	gray-brown, wet, very dense	SILTY GRAVEL W/SAND possible cobbles		9.5		NP	49	38	13	
4365																
	165		■	8	32,45,45,(54)	SM	gray-brown, wet, very dense	SILTY SAND W/GRAVEL								
4360																
	170		■	13	50,50,50/5", (REF)	GM	gray-brown, wet, very dense	SILTY GRAVEL W/SAND possible cobbles								
4355																
	175															
4350																
	180															
4345																
	185															
4340																
	190															
4335																
	195															
4330																

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) ← Blow Count per 6"; ← $(N_1)_{60}$ Value; *0.45* ← Torvane (tsf)

UNDISTURBED SAMPLE ▨ PUSHED; *0.45* ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

RB&G ENGINEERING, INC.

DRILL HOLE LOG

BORING NO. 09-P7-B2

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:255,668 E:589,495

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: ▽ 24.7' **AFTER 24 HOURS:** ▼ 21.0'

PROJECT NUMBER: 200801.200

DATE STARTED: 4/6/09

DATE COMPLETED: 4/9/09

GROUND ELEVATION: 4533.7'

LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				15	0.49 3,5,14,(40)	CL-ML SP-SM	brown, slightly moist, firm dk. brown, slightly moist, med. dense	SILTY CLAY W/SAND & GRAVEL organics								
4530	5			9	6,5,6,(23)	SP-SM (A-1-b(0))	brown, moist, loose	SAND W/SILT & GRAVEL (fill?)		9.4		NP	44	50	6	DS
4525	10			8	13,16,12,(45)	GM	brown, moist, med. dense	SILTY GRAVEL W/SAND possible cobbles								
4520	15			8	16,29,45,(98)	GP-GM	brown, moist, very dense									
4515	20 ▼			11	32,53,44,(99+)	GP-GM (A-1-a(0))	brown, very moist, very dense	GRAVEL W/SILT & SAND possible cobbles		7.0		NP	79	16	5	
4510	25 ▽			11	26,39,24,(69)	GP-GM	brown, moist, dense									
4505	30			12	5,13,25,(42)	SM GM	dk. brown, moist brown, very moist, med. dense	SILTY SAND SILTY GRAVEL W/SAND								
4500				13	3,5,5,(11)	ML (A-4(0))	gray, wet, med. dense	SILT		29.0		NP	0	7	93	13% -0.005 mm
	35			15	2,1,2,(3) 0.40	ML/CL-ML	gray, very moist, very loose/firm	PLASTIC SILT TO SILTY CLAY								
4495				14	3,4,9,(13)	ML (A-4(0))	gray, wet, med. dense	SANDY SILT		28.0		NP	0	38	62	10% -0.005 mm
	40			7	5,9,7,(16) 0.28	ML	gray, wet, med. dense/firm									
4490				15	16,20,28,(48)	SM (A-2-4(0))	gray, wet, dense	SILTY SAND		24.0		NP	0	86	14	4% -0.005 mm
	45			15	4,5,4,(9) 0.29	ML (A-4(1))	gray, wet, firm	SANDY SILT plastic		29.0	26	3	0	30	70	11% -0.005 mm
4485				16	3,4,6,(10) 0.53	CL-ML	gray, moist, stiff	SILTY CLAY W/SAND								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) ← Blow Count per 6"; ← $(N_1)_{60}$ Value; 0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED; 0.45 ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
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HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B2

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,668 E:589,495
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 24.7' **AFTER 24 HOURS:** ▼ 21.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 4/6/09
DATE COMPLETED: 4/9/09
GROUND ELEVATION: 4533.7'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
			■	14	4,5,7,(11) *0.35*	ML (*A-4(0)*)	gray-brown, wet, med. dense/firm	SANDY SILT plastic		28.5	25	2	0	36	64	10% -0.005 mm
4480	55		■	18	2,1,0,(1) *0.49* *0.38*	CL	gray-brown, moist, firm	LEAN CLAY silt lenses								
4475	60		☒	12	Pushed *0.52*	ML (*A-4(0)*)	gray, wet	SANDY SILT clay lenses & layers to 1" thick		25.6		NP	0	36	64	
4470	65		■	18	5,7,12,(16) *0.57*	CL	gray-brown, moist, stiff									
4465	70		☒	18	Pushed *0.77*	CL (*A-6(17)*)	gray-brown, moist, stiff	LEAN CLAY many sand lenses & layers	87.6	32.2	38	16	0	0	100	CT UC
4460	75		■	18	5,9,12,(17) *0.63*	CL	gray-brown, moist, stiff									
4455	80		☒	15	*0.57*	CL	gray-brown, moist, stiff									
			■	13	Pushed 5,5,11,(13)	SM SM (*A-2-4(0)*)	gray-brown, wet gray-brown, wet, med. dense	SILTY SAND		22.3		NP	0	71	29	
4450	85		■	17	*0.46* 8,30,22,(40)	CL SM	gray-brown, moist, firm gray-brown, wet, dense	LEAN CLAY sand lenses SILTY SAND								
4445	90		☒	14	Pushed *0.73*	CL (*A-7-6(23)*)	gray-brown, very moist, stiff		80.4	45.6	41	21	0	0	100	UU
4440	95		■	17	1,6,9,(11) *0.65*	CL	gray-brown, moist, stiff	LEAN CLAY silt lenses								
4435								LEAN CLAY silt lenses, soft & wet layers								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; *0.45* — Torvane (tsf)

UNDISTURBED SAMPLE ☒ PUSHED *0.45* — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B2

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,668 E:589,495
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 24.7' **AFTER 24 HOURS:** ▼ 21.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 4/6/09
DATE COMPLETED: 4/9/09
GROUND ELEVATION: 4533.7'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				13	Pushed 0.65 0.23	CL (A-6(15))	gray-brown, moist/wet, stiff/soft	95.6	30.2	35	15	0	4	96	CT UC
4430	105						LEAN CLAY silt lenses, soft & wet layers								
4425	110			17	Pushed 0.64	CL (A-7-6(28))	gray-brown, moist, stiff	92.2	32.2	46	26	0	1	99	UU
4420	115														
4415	120			15	Pushed 0.54	CL (A-6(8))	gray-brown, moist, stiff	98.6	25.0	27	11	0	10	90	UC
4410	125						LEAN CLAY silt and/or sand lenses								
4405	130			15	Pushed 0.62	CL (A-7-6(26))	dk. gray, moist, stiff	87.9	32.5	45	24	0	1	99	UU
4400	135														
4395							SAND (driller's observation)								
4390	140			13	Pushed 0.46	CL-ML (A-4(4))	gray, moist, firm	97.8	24.7	27	7	0	23	77	CT
							SILTY CLAY W/SAND								
4385	145						SAND clay layers (driller's observation)								
							LEAN CLAY								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) ← Blow Count per 6" / $(N_1)_{60}$ Value; 0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED 0.45 ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B2

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,668 E:589,495
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 35'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 24.7' **AFTER 24 HOURS:** ▼ 21.0'

PROJECT NUMBER: 200801.200
DATE STARTED: 4/6/09
DATE COMPLETED: 4/9/09
GROUND ELEVATION: 4533.7'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				14	Pushed *0.84*	CL (*A-6(22)*)	dk. gray, moist, stiff	LEAN CLAY	99.2	29.2	40	20	0	0	100	UU
4380	155															
4375																
	160			15	8,18,33,(31)	SM	gray, wet, dense	SILTY SAND sandy silt layers to 3" thick								
4370																
	165			10	49,38,17,(30)	SM (*A-1-b(0)*)	gray, wet, med. dense	SILTY SAND W/GRAVEL		10.8		NP	40	46	14	
4365																
	170			13	22,34,43,(42)	SM (*A-2-4(0)*)	gray, wet, dense	SILTY SAND		15.8		NP	13	65	22	
4360																
	175			10	38,48,37,(46)	GM	gray-brown, wet, med. dense	SILTY GRAVEL W/SAND								
4355																
	180															
4350																
	185															
4345																
	190															
4340																
	195															
4335																

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) — Blow Count per 6" / $(N_1)_{60}$ Value; *0.45* — Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED *0.45* — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B3

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:255,852 E:589,417

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 55'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: ▽ 34.7' **AFTER 24 HOURS:** ▼ 35.5'

PROJECT NUMBER: 200801.200

DATE STARTED: 4/1/09

DATE COMPLETED: 4/6/09

GROUND ELEVATION: 4548.2'

LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				16	3,7,20,(57)	SM GP-GM	dk. brown, slightly moist gray-brown, slightly moist, dense	SILTY SAND W/GRAVEL								
4545																
	5			2	13,18,20,(80)	GP-GM	brown, very moist, very dense									
4540																
	10			14	46,35,37,(99+)	GP-GM (A-1-a(0))	gray-brown, moist, very dense	GRAVEL W/SILT & SAND possible cobbles (fill)		6.0		NP	59	33	8	
4535																
	15			12	26,38,50/1", (REF)	GP-GM	gray-brown, moist, very dense									
4530																
	20			14	64,60,50/4", (REF)	GM (A-1-b(0))	gray-brown, moist, very dense	SILTY GRAVEL W/SAND possible cobbles (fill?)		8.2		NP	56	21	23	DS
4525																
	25			9	16,24,20,(46)	GM	gray-brown, moist, med. dense									
4520																
	30			5	16,18,17,(33)	GM	gray-brown, very moist, med. dense	SILTY GRAVEL W/SAND possible cobbles								
4515																
	35			4	38,32,20,(46)	GM	brown, wet, med. dense									
4510																
	40			6	14,12,13,(21)	GP (A-1-a(0))	gray-brown, wet, loose	GRAVEL W/SAND possible cobbles		7.2		NP	80	18	2	
4505																
	45			3	11,5,6,(9)	GP-GM	gray-brown, wet, very loose	GRAVEL W/SILT & SAND								
4500								SANDY SILT silty sand layers to 2" thick								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE: 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE: PUSHED; 0.45 — Torvane (tsf)

OTHER TESTS

UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B3

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,852 E:589,417
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 55'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 34.7' **AFTER 24 HOURS:** ▼ 35.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 4/1/09
DATE COMPLETED: 4/6/09
GROUND ELEVATION: 4548.2'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
			■	15	7,5,12,(15)	ML (A-4(0))	gray, wet, med. dense			26.5		NP	0	49	51	
4495																
	55		■	15	4,5,12,(14)	ML (A-4(0))	gray, wet, med. dense	SANDY SILT silty sand layers to 2" thick		29.9		NP	0	34	66	12% -0.005 mm
4490																
	60		■	16	4,7,9,(13)	ML (A-4(0))	gray, wet, med. dense			27.6		NP	0	36	64	11% -0.005 mm
4485																
	65		■	18	3,2,2,(3) *0.48*	CL (A-6(6))	gray-brown, very moist, firm	SANDY LEAN CLAY frequent silt lenses		34.3	34	13	5	31	64	
4480																
	70		⊠	18	Pushed *0.71*	CL (A-6(13))	gray to gray-brown, very moist, stiff	LEAN CLAY soft layers	87.4	35.2	34	14	0	5	95	UU
4475																
	75		■	14	15,22,21,(33)	SM	gray, wet, dense	SILTY SAND silt layers to 1-1/2" thick, few clay lenses								
4470																
	80		⊠	18	Pushed *0.84*	CL (A-6(11))	gray, moist, stiff		93.0	27.9	31	11	0	2	98	CT UC
4465																
	85		■	18	0,3,7,(7) *0.50*	CL	gray-brown, moist, firm to stiff									
4460								LEAN CLAY silt and/or sand lenses								
	90		⊠	18	Pushed *0.70*	CL (A-6(13))	gray-brown, moist, stiff		95.3	30.8	33	13	0	1	99	UU
4455																
	95		■	18	3,2,3,(4) *0.46*	CL	gray-brown, moist, firm									
4450																

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) ← Blow Count per 6"; $(N_1)_{60}$ Value
0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE ⊠ PUSHED
0.45 ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B3

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,852 E:589,417
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 55'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 34.7' **AFTER 24 HOURS:** ▼ 35.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 4/1/09
DATE COMPLETED: 4/6/09
GROUND ELEVATION: 4548.2'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
				18	0.30 Pushed	CL (A-6(11))	gray-brown, moist, firm	89.3	30.5	31	12	0	3	97	CT UC
4445				14	9,12,17,(20) 0.64	ML,CL	gray-brown & gray, moist/wet, stiff/med. dense — INTERBEDDED SANDY SILT & LEAN CLAY LAYERS 1" TO 6" THICK								
	105														
4440															
	110			16	Pushed 0.55	CL (A-6(19))	gray, moist, stiff	92.6	33.2	37	18	0	0	100	UU
4435															
	115														
4430															
	120			17	Pushed 0.86	CL (A-6(22))	gray-brown, moist, stiff	88.5	33.2	40	21	0	1	99	
4425															
	125						LEAN CLAY occasional silt lenses, few soft layers								
4420															
	130			16	Pushed 0.58	CL (A-6(10))	gray-brown w/black, very moist, stiff	88.6	31.3	30	11	0	3	97	CT UC
4415															
	135														
4410															
	140			14	Pushed 0.84	CL (A-7-6(31))	gray-brown w/black, moist, stiff	87.0	35.1	49	28	0	0	100	
4405															
	145														
4400							LEAN CLAY W/SAND sand lenses								

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED 0.45 — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
CT = Consolidation
DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B3

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION
LOCATION: N:255,852 E:589,417
DRILLING METHOD: 96-CME-55 / N.W. CASING TO 55'
DRILLER: E. RICHARDSON
DEPTH TO WATER - INITIAL: ▽ 34.7' **AFTER 24 HOURS:** ▼ 35.5'

PROJECT NUMBER: 200801.200
DATE STARTED: 4/1/09
DATE COMPLETED: 4/6/09
GROUND ELEVATION: 4548.2'
LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description		Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
			▽	12	Pushed 0.77	CL (A-6(14))	gray-brown, moist, stiff	LEAN CLAY W/SAND sand lenses	95.5	31.4	36	17	0	15	85	UU
4395																
	155							SILTY SAND clay layers to 2" thick								
4390																
	160		■	13	15,24,28,(30)	SM (A-4(0))	gray, wet, med. dense			24.8		NP	0	51	49	
4385																
	165															
4380																
	170		■	18	0/12",5,(3) 0.64	CL (A-6(21))	gray-brown w/black, moist, stiff	LEAN CLAY silt and/or sand lenses		33.1	40	19	0	0	100	
4375																
	175															
4370								SILTY SAND clay lenses & layers								
	180					SM (A-2-4(0))	dk. gray, wet			23.2		NP	0	73	27	
			▽	14	Pushed 0.83	CL-ML (A-4(3))	gray-brown, moist, stiff	SILTY CLAY W/SAND sand layers	107.8	21.4	26	7	0	26	74	CT
			■	14	3,2,13,(8) 0.88	SM	~~gray-brown, wet~~ gray-brown, moist, stiff	SILTY SAND								
4365						CL-ML		SILTY CLAY W/SAND								
	185		■	12	20,23,50/4", (REF)	SM SM	gray, wet, dense gray, wet, very dense	SILTY SAND clay layers 3/4" thick SILTY SAND W/GRAVEL								
4360																
	190		■	13	35,60,60/4", (REF)	GP-GM (A-1-a(0))	gray-brown, wet, very dense			8.4		NP	52	37	11	
4355								GRAVEL W/SILT & SAND possible cobbles								
	195		■	11	42,47,50/5", (REF)	GP-GM	gray-brown, wet, very dense									
4350																

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE ■ 2,3,2,(6) — Blow Count per 6"; $(N_1)_{60}$ Value; 0.45 — Torvane (tsf)

UNDISTURBED SAMPLE ▽ PUSHED 0.45 — Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
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DS = Direct Shear
UU = Unconsolidated, Undrained
CU = Consolidated, Undrained
HYD = Hydrometer
SS = Soluble Salt
DC = Dispersive Clay

DRILL HOLE LOG

BORING NO. 09-P7-B3

PROJECT: I-15 UTAH CO. CORRIDOR - P7, PROVO CENTER STREET OVER I-15

CLIENT: UTAH DEPARTMENT OF TRANSPORTATION

LOCATION: N:255,852 E:589,417

DRILLING METHOD: 96-CME-55 / N.W. CASING TO 55'

DRILLER: E. RICHARDSON

DEPTH TO WATER - INITIAL: ▽ 34.7' **AFTER 24 HOURS:** ▼ 35.5'

PROJECT NUMBER: 200801.200

DATE STARTED: 4/1/09

DATE COMPLETED: 4/6/09

GROUND ELEVATION: 4548.2'

LOGGED BY: C. SANBORN, J. BOONE

Elev. (ft)	Depth (ft)	Lithology	Sample Type	Sample Rec. (in)	Sample See Legend	Sample USCS (AASHTO)	Material Description	Dry Density (pcf)	Moisture Content (%)	Atter. Liquid Limit	Atter. Plast. Index	Gradation Gravel (%)	Gradation Sand (%)	Gradation Silt/Clay (%)	Other Tests
4345							GRAVEL W/SILT & SAND possible cobbles								
	205														
4340															
	210														
4335															
	215														
4330															
	220														
4325															
	225														
4320															
	230														
4315															
	235														
4310															
	240														
4305															
	245														
4300															

DH_LOGV1 08-P7.GPJ US EVAL.GDT 5/26/09

RB&G ENGINEERING, INC.

LEGEND:

DISTURBED SAMPLE — 2,3,2,(6) ← Blow Count per 6"; ← $(N_1)_{60}$ Value; 0.45 ← Torvane (tsf)

UNDISTURBED SAMPLE — PUSHED; 0.45 ← Torvane (tsf)

OTHER TESTS
UC = Unconfined Compression
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HYD = Hydrometer
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